

COMMERCIAL STANDARD

CS143-60

**Perforated Vitrified Clay Pipe (Standard
and Extra Strength)**

A recorded
voluntary standard of the
trade published by
the U.S. Department
of Commerce



For sale by the Superintendent of Documents

U.S. Government Printing Office, Washington 25, D.C. Price 5 cents

U.S. DEPARTMENT OF COMMERCE
BUSINESS AND DEFENSE SERVICES ADMINISTRATION
OFFICE OF TECHNICAL SERVICES
Commodity Standards Division

With the cooperation of the
National Bureau of Standards

COMMERCIAL STANDARDS

Commercial Standards are developed by manufacturers, distributors, and users in cooperation with the Commodity Standards Division of the Office of Technical Services, Business and Defense Services Administration, and with the National Bureau of Standards. Their purpose is to establish quality criteria, standard methods of test, rating, certification, and labeling of manufactured commodities, and to provide uniform bases for fair competition.

The adoption and use of a Commercial Standard is voluntary. However, when reference to a Commercial Standard is made in contracts, labels, invoices, or advertising literature, the provisions of the standard are enforceable through usual legal channels as a part of the sales contract.

Commercial Standards originate with the proponent industry. The sponsors may be manufacturers, distributors, or users of the specific product. One of these three elements of industry submits to the Commodity Standards Division the necessary data to be used as the basis for developing a standard of practice. The division by means of assembled conferences or letter referenda, or both, assists the sponsor group in arriving at a tentative standard of practice and thereafter refers it to the other elements of the same industry for approval or for constructive criticism that will be helpful in making any necessary adjustments. The regular procedure of the division assures continuous servicing of each Commercial Standard through review and revision whenever, in the opinion of the industry, changing conditions warrant such action.

SIMPLIFIED PRACTICE RECOMMENDATIONS

Under a similar procedure the Commodity Standards Division cooperates with industries in the establishment of Simplified Practice Recommendations. Their purpose is to eliminate avoidable waste through the establishment of standards of practice for sizes, dimensions, varieties, or other characteristics of specific products; to simplify packaging practices; and to establish simplified methods of performing specific tasks.

Perforated Vitrified Clay Pipe (Standard and Extra Strength)

[Effective June 1, 1959]

1. PURPOSE

1.1 The purpose of this Commercial Standard is to provide generally accepted requirements for perforated vitrified clay pipe for drainage and similar purposes, as a basis for better understanding between producers and users; to promote fair competition; and to provide a means of labeling the finished product to show compliance with the standard.

1.2 The standard is meant to serve as a primary reference to existing nationally recognized specifications.

2. SCOPE

2.1 This Commercial Standard covers definitions and requirements for materials, workmanship and finish, absorption, crushing strength, dimensions, and resistance to action of acids for glazed or unglazed, perforated vitrified clay pipe of the following classes and sizes.

2.1.1 *Classes*.—Classes shall be those known in the trade as (1) standard strength perforated clay pipe, and (2) extra strength perforated clay pipe.

2.1.2 *Sizes*.—Sizes for standard strength pipe shall be from 4 to 24 in. nominal inside diameter, inclusive; and for extra strength pipe from 4 to 39 in. nominal inside diameter, inclusive.

3. DEFINITIONS

3.1 *Clay* is an earthy or stony mineral aggregate consisting essentially of hydrous silicates of alumina, plastic when sufficiently pulverized and wetted, rigid when dry, and vitreous when fired at a sufficiently high temperature.

3.1.1 *Surface clay* is an unconsolidated, unstratified clay occurring on the surface of the ground.

3.1.2 *Fire clay* is sedimentary clay of low-flux content.

3.1.3 *Shale* is a thinly stratified, consolidated, sedimentary clay with well-marked cleavage parallel to the bedding.

4. GENERAL REQUIREMENTS

4.1 *Materials and Manufacture*.—Perforated vitrified clay pipe shall be manufactured from surface clay, fire clay, shale or mixtures of these materials and shall meet the requirements of one of the following nationally recognized specifications, or latest revisions thereof, as designated by the purchaser.¹

(a) Interim Federal Specification SS-P-00359, Perforated Clay Pipe²

¹ These specifications have traditionally been used as the basis of requirements for perforated vitrified clay pipe by various segments of the construction industry. For example, perforated vitrified clay pipe to be used in highway construction may be required to meet A.A.S.H.O., ASTM or West Coast Specifications. Federal agencies may require conformance to Federal Specifications.

² Available from the Business Service Center, General Services Administration, 7th and D Sts., S.W., Washington 25, D.C.

(b) ASTM Designation: C-211, Standard Strength Perforated Clay Pipe³

(c) AASHTO Designation: M65, Standard Specifications for Clay Pipe⁴

(d) West Coast Clay Pipe Standards⁵

4.1.1 Perforated vitrified clay pipe made in accordance with ASTM Specifications C-13, C-200, C-261 and C-278 as well as C-211 shall be acceptable so long as the size, dimensions and spacing of perforations meet the requirements of C-211.

4.2 *Product*.—The perforated vitrified clay pipe shall be strong, durable, serviceable and free from objectionable defects.

5. DETAIL REQUIREMENTS

5.1 Requirements for resistance to action of acids, absorption, crushing strength, perforations, sizes and dimensions shall be in accordance with the applicable specification, listed in par. 4.1, which is designated by the purchaser.

6. SAMPLING AND METHODS OF TEST

6.1 Sampling and testing for resistance to action of acids, absorption and crushing strength shall be in accordance with the applicable specification, listed in par. 4.1, which is designated by the purchaser.

7. MARKING, INSPECTION AND ACCEPTANCE

7.1 Marking, inspection and acceptance shall be in accordance with the applicable specification, listed in par. 4.1, which is designated by the purchaser.

8. IDENTIFICATION

8.1 In order to assure the purchaser that perforated vitrified clay pipe complies with all requirements of this standard, manufacturers may identify their products by means of a statement of compliance on labels, invoices, sales literature, etc. The following statement is recommended:

This (standard strength or extra strength) perforated vitrified clay pipe complies with Commercial Standard CS143-60, as developed by the trade, under the procedure of the Commodity Standards Division, and issued by the U.S. Department of Commerce. It meets the performance requirements and tests of:

----- specifications
(Designate applicable specifications:
Federal, ASTM, AASHTO or West Coast).

When available space on labels is insufficient for the full statement in legible type, an abbreviated statement, as follows, is recommended:

Complies with CS143-60, as developed by the trade, and issued by the U.S. Department of Commerce. Meets requirements and tests of:

----- specifications
(Designate applicable specifications:
Federal, ASTM, AASHTO or West Coast).

9. EFFECTIVE DATE

9.1 Having been passed through the regular procedure of the Commodity Standards Division, and approved by the acceptors hereinafter listed, this Commercial Standard was issued by the U.S. Department of Commerce, effective June 1, 1959.

³ Available from American Society for Testing Materials, 1916 Race St., Philadelphia 3, Pa.

⁴ Available from American Association of State Highway Officials, National Press Building, Washington 4, D.C.

⁵ Available from Clay Pipe Institute, 315 W. Ninth St., Los Angeles 15, Calif.

HISTORY OF PROJECT

First editions.—On January 9, 1947, the National Clay Pipe Manufacturers, Inc., requested the cooperation of the National Bureau of Standards in the establishment of a commercial standard for standard strength and extra strength perforated clay pipe. The following specifications were used as a basis for a proposed commercial standard:

Federal Specification SS-P-361a; Pipe; clay, sewer.

ASTM Designation C13-44T; Standard strength clay sewer pipe.

ASTM Designation C200-44T; Extra strength clay pipe.

On February 4, 1947, the proposed commercial standard was submitted to producers, distributors, users, and interested government agencies, for their review and comment. The proposed draft was adjusted in accordance with the consensus of comment received.

The recommended commercial standard was submitted on April 3, 1947, to the entire trade for written acceptance. Upon receipt of written acceptances from a satisfactory majority of those interested, announcement was made on September 22, 1947, that the standard would be known as Commercial Standard CS143-47.

Second edition.—At the request of the National Clay Pipe Manufacturers, Inc., dated October 1, 1956, the Commodity Standards Division undertook the development of a revision of CS143-47. A proposed revision was circulated to the Standing Committee for consideration on March 21, 1957. Subsequent adjustment of the proposal by the Specification Committee of the National Clay Pipe Manufacturers, Inc., resulted in the distribution of the Recommended Revision on August 15, 1958, to the industry for acceptance. Following unanimous endorsement by the manufacturers of clay pipe and with the approval of a representative cross-section of the industry, an announcement of the success of the project was issued on May 1, 1959. The revised standard is designated CS143-60 and became effective June 1, 1959.

Project Manager: H. A. Bonnet, Commodity Standards Division, Office of Technical Services.

Technical Adviser: D. E. Parsons, Chief, Building Technology Division, National Bureau of Standards.

STANDING COMMITTEE

The function of the Standing Committee is to review, prior to circulation for acceptance, changes proposed to keep the standard abreast of progress. Comments concerning the standard and suggestions for revision may be addressed to the Commodity Standards Division, Office of Technical Services, U.S. Department of Commerce, which acts as secretary for the committee, or to any of its members listed below:

- G. A. ROBINSON, President, National Clay Pipe Manufacturers, Inc., 1820 N. St., Washington 6, D.C. (Chairman)
LEE BENNETT, Vice President and Director of Research, Pacific Clay Products, P.O. Box 2178, Terminal Annex, Los Angeles 54, Calif.
KENNETH S. EFF, Office, Chief of Engineers, Department of the Army, Room 2055, Building T-7, Washington 25, D.C.
EDWIN H. JONES, Chief Maintenance Engineer, Pennsylvania State Highway Department, Harrisburg, Pa.
E. M. LAWRENCE, Vice President, Sales, Pomona Terra Cotta Co., Greensboro, N.C.
HENRY J. LICHTFELD, W-425, Chief Technical Branch, Office of Airports, Civil Aeronautics Administration, Commerce Building, Washington 25, D.C.
JOHN M. PALMER, Sales Manager, Lee Clay Products Co., Inc., Clearfield, Ky.
E. S. PRESTON, Director of Highways, State Office Building, Columbus, Ohio.

W. E. ROBINSON, Robinson Clay Product Co., P.O. Box 1070, Akron 9, Ohio.
 REX M. WHITTON, Missouri State Highway Commission, Jefferson City, Mo.
 H. P. WILHELMSEN, President and General Manager, W. S. Dickey Clay Manufacturing Co., 922 Walnut St., Kansas City 6, Mo.

ACCEPTORS

The manufacturers, distributors, users and others listed below have individually indicated in writing their acceptance of this Commercial Standard prior to its publication. The acceptances indicate an intention to utilize the standard as far as practicable, but reserve the right to depart from it as may be deemed desirable. The list is published to show the extent of recorded public support for the standard, and should not be construed as indicating that all products made by the acceptors actually comply with its requirements.

Products that meet all requirements of the standard may be identified as such by a certificate, grade mark, or label. Purchasers are encouraged to require such specific evidence of compliance, which may be given by the manufacturer whether or not he is an acceptor.

ASSOCIATIONS

(General Support)

Building Officials Conference of America, Inc., Chicago, Ill.

Central Supply Association, Chicago, Ill.

Clay Pipe Institute, Los Angeles, Calif.

Clay Products Association, Barrington, Ill.

Clay Sewer Pipe Association, Columbus, Ohio.

National Clay Pipe Manufacturers, Inc., Washington, D.C.

Southern Clay Pipe Institute, Inc., Atlanta, Ga.

FIRMS AND OTHER INTERESTS

Arnsdorff Plumbing & Heating Co., Savannah, Ga.

Baker, John W., Plumbing, Dallas, Tex.

Brust & Brust, Architects, Milwaukee, Wis.

Buchi Plumbing Co., Nashville, Tenn.

California Pottery Co., Niles, Calif.

Cannelton Sewer Pipe Co., Cannelton, Ind.

Cannon & Mullen, Architects, Salt Lake City, Utah.

Case Institute of Technology, Cleveland, Ohio.

Clay City Pipe Co., The, Uhrichsville, Ohio.

Colbert, Maurice J., Co., Inc., Washington, D.C.

Cranston, City of, Cranston, R.I.

Dennison Sewer Pipe Corp., Cleveland, Ohio.

Denver Brick and Pipe Co., The, Denver, Colo.

Detroit, City of, Dept. of Bldgs. & Safety Engineering, Detroit, Mich.

Dickey, W. S., Clay Manufacturing Co., Kansas City, Mo.

Dubuque, City of, Dubuque, Iowa.

Ericson, M. G., Plumbing & Heating Co., Salt Lake City, Utah.

Evans Pipe Co., The, Uhrichsville, Ohio.

Fitzgerald, J. J. & Co., Inc., Philadelphia, Pa.

Galena, J. J., Co., Chicago, Ill.

Gilliam, William H., Inc., Washington, D.C.

Gladding, McBean & Co., Los Angeles, Calif.

Hajoca Corp., Ardmore, Pa.

Iowa Pipe and Tile Co., Des Moines, Iowa.

Junction City Clay Co., The, Cleveland, Ohio.

Jungbert, Edward, Plumbing and Heating, Louisville, Ky.

Kahn, Albert, Associated Architects and Engineers, Inc., Detroit, Mich.

Kemble Plumbing Co., Orange, Tex.

Larson Clay Pipe Co., Uhrichsville, Ohio.

Lee Clay Products Co., Inc., Clearfield, Ky.

Loeb, Laurence M., Architect, White Plains, N.Y.

Logan Clay Products Co., The, Logan, Ohio.

Malone Plumbing Supply Co., Pittsburgh, Pa.

Manoy, Inc. Mechanical Contractors, Oklahoma City, Okla.

McGowin-Lyons Hardware & Supply Co., Mobile, Ala.

New York Central Railroad Co., New York, N.Y.

Oklahoma Plumbing Heating Inc., Enid, Okla.

Omaha, City of, Omaha, Neb. (General Support)

Oro Loma Sanitary District, San Leandro, Calif.

Patzig Testing Laboratories, Des Moines, Iowa.

Peerless Clay Corp., Toronto, Ohio.

Pennsylvania Railroad Co., The, Philadelphia, Pa.

Red Wing Sewer Pipe Corp., Red Wing, Minn.

Robischung-Kiesling Contracting Corp., Houston, Tex.

Sanitary Plumbing & Heating, Mandan, N.D.

Schoeller Plumbing, Trenton, N.J.

Stillwater Clay Products Co., The, Cleveland, Ohio.

Streator Drain Tile Co., Streator, Ill.

Superior Clay Corp., Uhrichsville, Ohio.

Texas Vitrified Pipe Co., Mineral Wells, Tex.

U.S. GOVERNMENT

DCSLOG, Department of the Army, Washington, D.C.

Veterans Administration, Development and Standards Division, Washington, D.C.

CS143-60

ACCEPTANCE OF COMMERCIAL STANDARD

Perforated Vitrified Clay Pipe (Standard and Extra Strength)

If acceptance has not previously been filed, this sheet properly filled in, signed, and returned will provide for the recording of your organization as an acceptor of this Commercial Standard.

Date _____

Commodity Standards Division
Office of Technical Services
Business and Defense Services Administration
U. S. Department of Commerce
Washington 25, D. C.

Gentlemen:

We believe that this Commercial Standard constitutes a useful standard of practice, and we individually plan to utilize it as far as practicable in the

production¹ distribution¹ purchase¹ testing¹
of this commodity.

We reserve the right to depart from the standard as we deem advisable.

We understand, of course, that only those articles which actually comply with the standard in all respects can be identified or labeled as conforming thereto.

Signature of authorized officer _____
(In ink)

(Kindly typewrite or print the following lines)

Name and title of above officer _____

Organization _____

(Fill in exactly as it should be listed)

Street address _____

City, zone, and State _____

¹ Underscore the applicable words. Please see that separate acceptances are filed for all subsidiary companies and affiliates which should be listed separately as acceptors. In the case of related interest, trade associations, trade papers, etc., desiring to record their general support, the words "General support" should be added after the signature.

(Cut on this line)

TO THE ACCEPTOR

The following statements answer the usual questions arising in connection with the acceptance and its significance:

1. *Enforcement.*—Commercial Standards are commodity specifications voluntarily established by mutual consent of those concerned. They present a common basis of understanding between the producer, distributor, and consumer and should not be confused with any plan of governmental regulation or control. The United States Department of Commerce has no regulatory power in the enforcement of their provisions, but since they represent the will of the interested groups as a whole, their provisions through usage soon become established as trade customs, and are made effective through incorporation into sales contracts by means of labels, invoices, and the like.

2. *The acceptor's responsibility.*—The purpose of Commercial Standards is to establish, for specific commodities, nationally recognized grades or consumer criteria, and the benefits therefrom will be measurable in direct proportion to their general recognition and actual use. Instances will occur when it may be necessary to deviate from the standard and the signing of an acceptance does not preclude such departures; however, such signature indicates an intention to follow the standard, where practicable, in the production, distribution, or consumption of the article in question.

3. *The Department's responsibility.*—The major function, performed by the Department of Commerce in the voluntary establishment of Commercial Standards on a nationwide basis is fourfold: First, to act as an unbiased coordinator to bring all interested parties together for the mutually satisfactory adjustment of trade standards; second, to supply such assistance and advice as past experience with similar programs may suggest; third, to canvass and record the extent of acceptance and adherence to the standard on the part of producers, distributors, and users; and fourth, after acceptance, to publish and promulgate the standard for the information and guidance of buyers and sellers of the commodity.

4. *Announcement and promulgation.*—When the standard has been endorsed by a satisfactory majority of production or consumption in the absence of active, valid opposition, the success of the project is announced. If, however, in the opinion of the standing committee or of the Department of Commerce, the support of any standard is inadequate, the right is reserved to withhold promulgation and publication.

DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS
Notice of Intent To Withdraw Certain Standards

In accordance with § 10.12 of the Department of Commerce Procedures for the Development of Voluntary Product Standards (15 CFR Part 10, as revised; 35 F.R. 8349, dated May 28, 1970), notice is hereby given of the Department's intent to withdraw the nine standards identified below. It has been tentatively determined that each of these standards, Commercial Standard (CS) and Simplified Practice Recommendation (SPR), are technically inadequate and that due to the existence of other more up-to-date nationally recognized standards for the products covered, revision of these out-of-date standards would serve no useful purpose. The more up-to-date standards that are considered to be suitable and appropriate replacements for the standards listed for withdrawal are identified below in parentheses.

- CS 116-54 Homogeneous-Wall Bituminized-Fibre Drain and Sewer Pipe.
(ASTM D 1861-69 Standard Specification for Homogeneous Bituminized Fiber Drain and Sewer Pipe.)
- CS 226-59 Laminated-Wall, Bituminized-Fibre Drain and Sewer Pipe.
(ASTM D 1862-64 Standard Specification for Laminated-Wall Bituminized Fiber Drain and Sewer Pipe.)
- CS 270-65 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Drain, Waste and Vent Pipe and Fittings.
(ASTM D 2661-68 Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Drain, Waste and Vent Pipe and Fittings.)
- CS 272-65 Polyvinyl Chloride (PVC) Plastic Drain, Waste and Vent Pipe and Fittings.
(ASTM D 2665-68 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste and Vent Pipe and Fittings.)

- CS 228-61 Styrene Rubber Plastic Drain and Sewer Pipe and Fittings.
(ASTM D 2852-69T Standard Specification for Styrene-Rubber Plastic Drain and Building Sewer Pipe and Fittings.)
- CS 188-68 Cast-Iron Soil Pipe and Fittings.
(ASTM A 74-69 Standard Specification for Cast Iron Soil Pipe and Fittings.)
- CS 143-60 Perforated Vitrified Clay Pipe (Standard and Extra Strength).
(ASTM C 13-69 Standard Specification for Standard Strength Clay Sewer Pipe.)
(ASTM C 200-69 Standard Specification for Extra Strength Clay Pipe.)
(ASTM C 211-68 Standard Specification for Standard and Extra Strength Perforated Clay Pipe.)
- CS 224-60 Vitrified Clay Sewer Pipe (Standard and Extra Strength).
(ASTM C 13-69 Standard Specification for Standard Strength Clay Sewer Pipe.)
(ASTM C 200-69 Standard Specification for Extra Strength Clay Pipe.)
(ASTM C 211-68 Standard Specification for Standard and Extra Strength Perforated Clay Pipe.)
- SPR 211-45 Clay Sewer Pipe and Fittings.
(ASTM C 12-64 Standard Specification for Installing Vitrified Clay Sewer Pipe.)

Any comments or objections concerning the intended withdrawal of any of these standards should be made in writing and directed to the Office of Engineering Standards Services, National Bureau of Standards, Washington, D.C. 20234, within 45 days of the publication of this notice. The effective date of withdrawal, where appropriate, will be not less than 60 days after the final notice of withdrawal. Withdrawal action terminates the authority to refer to a published standard as a voluntary standard developed under the Department of Commerce procedures, from the effective date of the withdrawal.

LAWRENCE M. KUSHNER,
Acting Director.

JANUARY 19, 1972.

[FR Doc.72-1084 Filed 1-24-72;8:50 am]

Reprinted from

FEDERAL REGISTER, VOL. 37, NO. 16—TUESDAY, JANUARY 25, 1972

CS 143-60